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-007US1/D1150-5US

Amendment to the Claims:

Please cancel claims 3 and 10 to 13, without prejudice.

Please amend the claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An isolated or recombinant polypeptide having substantially pure endoglucanase or cellulase activity having an amino acid sequence having at least 70% sequence identity to a sequence as set forth in selected from the group consisting of SEQ ID NO:46, or encoded by a nucleic acid having at least 70% sequence identity to a sequence as set forth in SEQ ID NO:45 NO:2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 36, 38, 40, 42, 44, 46, and 48.

Claim 2 (currently amended): An isolated or recombinant polynucleotide sequence encoding an endoglucanase or cellulase of claim 1.

Claim 3 (canceled)

Claim 4 (currently amended): The isolated or recombinant polynucleotide of claim 2, wherein the polynucleotide is isolated from a prokaryote.

Claim 5 (currently amended): A An expression vector comprising a nucleic acid having a sequence as set forth in including the polynucleotide of claim 2 or claim 32.

Claim 6 (currently amended): The vector of claim 5, wherein the vector [[is]] comprises a plasmid.

Claim 7 (currently amended): The vector of claim 5, wherein the vector [[is a]] comprises virus-derived sequences.

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Claim 8 (currently amended): A host cell comprising transformed with the vector of claim 5 or a nucleic acid having a sequence as set forth in claim 2 or claim 28.

Claim 9 (currently amended): The host cell of claim 8, wherein the cell is prokaryotic.

Claims 10 to 13 (canceled)

Claim 14 (original): A method for producing an enzyme comprising growing a host cell of claim 8 under conditions which allow the expression of the nucleic acid and isolating the enzyme encoded by the nucleic acid.

Claim 15 (currently amended): A method for degrading carboxymethylcellulose comprising contacting a carboxymethylcellulose with an a ~~degrading~~ effective amount of a polypeptide ~~the enzyme~~ of claim 1.

Claim 16 (currently amended): A method for hydrolyzing a ~~[[the]]~~ beta 1,4 glycosidic bond in a cellulose comprising contacting an effective amount of a polypeptide ~~the enzyme~~ of claim 1 with the cellulose to hydrolyze the glycosidic bond.

Claim 17 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide is encoded by a nucleic acid having at least 90% sequence identity to a sequence as set forth in SEQ ID NO:45.

Claim 18 (new): The isolated or recombinant polypeptide of claim 17, wherein the sequence identity is at least 95%.

Claim 19 (new): The isolated or recombinant polypeptide of claim 18, wherein the sequence identity is at least 97%.

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Claim 20 (new): The isolated or recombinant polypeptide of claim 19, wherein the nucleic acid has a sequence as set forth in SEQ ID NO:45.

Claim 21 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide has at least 90% sequence identity to a sequence as set forth in SEQ ID NO:46.

Claim 22 (new): The isolated or recombinant polypeptide of claim 21, wherein the polypeptide has at least 95% sequence identity to a sequence as set forth in SEQ ID NO:46.

Claim 23 (new): The isolated or recombinant polypeptide of claim 22, wherein the polypeptide has a sequence as set forth in SEQ ID NO:46.

Claim 24 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide has endoglucanase activity.

Claim 25 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide has cellulase activity.

Claim 26 (new): The isolated or recombinant polypeptide of claim 25, wherein the cellulase activity comprises a carboxymethyl cellulase activity.

Claim 27 (new): An isolated or recombinant polypeptide having endoglucanase or cellulase activity comprising at least 30 amino acid residues of a polypeptide having at least 70% sequence identity an amino acid sequence as set forth in SEQ ID NO:46.

Claim 28 (new): The isolated or recombinant polypeptide of claim 27, wherein the polypeptide comprises at least 50 amino acid residues of a polypeptide having at least 70% sequence identity an amino acid sequence as set forth in SEQ ID NO:46.

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Claim 29 (new): An isolated or recombinant polypeptide having endoglucanase or cellulase activity comprising at least 30 amino acid residues of a polypeptide having an amino acid sequence as set forth in SEQ ID NO:46.

Claim 30 (new): The isolated or recombinant polypeptide of claim 29, wherein the polypeptide comprises at least 50 amino acid residues.

Claim 31 (new): An isolated or recombinant polypeptide having endoglucanase or cellulase activity comprising an amino acid sequence as set forth in SEQ ID NO:46 and having at least one conservative amino acid substitution, wherein the conservative amino acid substitution comprises: a replacement, one for another, among the aliphatic amino acids Ala, Val, Leu and Ile; or an interchange of the hydroxyl residues Ser and Thr; or an exchange of the acidic residues Asp and Glu; or a substitution between the amide residues Asn and Gln; or an exchange of the basic residues Lys and Arg; or a replacement among the aromatic residues Phe, Tyr.

Claim 32 (new): An isolated or recombinant nucleic acid encoding a polypeptide having endoglucanase or cellulase activity and having a nucleic acid sequence having at least 70% sequence identity to a sequence as set forth in SEQ ID NO:45.

Claim 33 (new): The isolated or recombinant nucleic acid of claim 32, wherein the nucleic acid sequence has at least 90% sequence identity to a sequence as set forth in SEQ ID NO:45.

Claim 34 (new): The isolated or recombinant nucleic acid of claim 33, wherein the nucleic acid sequence has at least 95% sequence identity to a sequence as set forth in SEQ ID NO:45.

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Claim 35 (new): The isolated or recombinant nucleic acid of claim 34, wherein the nucleic acid sequence has at least 97% sequence identity to a sequence as set forth in SEQ ID NO:45.

Claim 36 (new): The isolated or recombinant nucleic acid of claim 35, wherein the nucleic acid sequence has a sequence as set forth in SEQ ID NO:45.

Claim 37 (new): An isolated or recombinant nucleic acid encoding a polypeptide having endoglucanase or cellulase activity, wherein the nucleic acid hybridizes under stringent conditions to a sequence as set forth in SEQ ID NO:45, and the stringent conditions comprise a wash step comprising a wash for 30 minutes at room temperature in a solution comprising 150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na₂EDTA, 0.5% SDS, followed by 30 minute wash in fresh solution at T_m-10°C.

Claim 38 (new): The host cell of claim 8, wherein the cell is a plant cell.

Claim 39 (new): The host cell of claim 8, wherein the cell is a yeast cell, a bacterial cell, a fungal cell, an insect cell or an animal cell.

Claim 40 (new): A probe comprising at least 15 contiguous nucleotides of a sequence as set forth in claim 32.

Claim 41 (new): The probe of claim 40, wherein the probe comprises at least 25 contiguous nucleotides.

Claim 42 (new): The probe of claim 41, wherein the probe comprises at least 35 contiguous nucleotides.

Claim 43 (new): The probe of claim 42, wherein the probe comprises at least 50 contiguous nucleotides.

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Claim 44 (new): A method for converting plant biomass into fuels and chemicals comprising contacting a carboxymethylcellulose with an effective amount of a polypeptide of claim 1, thereby converting the plant biomass into a fuel or a chemical.

Claim 45 (new): The method of claim 15 or 16, wherein the polypeptide is employed in the detergent and textile industry.

Claim 46 (new): The method of claim 15 or 16, wherein the method produces an animal feed.

Claim 47 (new): The method of claim 15 or 16, wherein the polypeptide is employed in waste treatment.

Claim 48 (new): The method of claim 15 or 16, wherein the polypeptide is employed in a fruit juice industry or a brewing industry for the clarification or extraction of juices or brews.

Claim 49 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide further comprises a textile.

Claim 50 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide further comprises a feed.

Claim 51 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide further comprises a detergent.

Claim 52 (new): The isolated or recombinant polypeptide of claim 1, wherein the polypeptide further comprises a juice or a brew.

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